

Specification Amendments

[0028] FIG. 6 illustrates, diagrammatically, another and preferred means for automatically transferring completed core assemblies from the core assembly fixtures of a rotating table to a horizontal conveyor. The means 40 illustrated in FIG. 6 is a pick-and-place apparatus located adjacent the fourth station 14 of the system, as indicated by the dashed line box 40 of FIG. 1. As illustrated by FIG. 6, the pick-and-place assembly 40 comprises a gantry 41 including a plurality of vertical supports 42 straddling the horizontal conveyor 18 upon which completed core assemblies 19 are to be placed. A framework 43 is carried by the vertical supports 42 and is moveable up and down vertically, as indicated by the arrows 43a. The pick-and-place assembly includes a first means for driving framework 43 vertically with respect to vertical supports 42. A truck 44 is carried by the framework 43. The truck 44 is carried in such a manner that it is movable both horizontally, toward and away from the rotating table 20 as illustrated by the arrow 44a, and pivotally within the pick-and-place assembly. The pick-and-place assembly includes both a second means for driving the truck horizontally with respect to the framework 43 and a third means for pivoting the truck angularly with respect to the ~~truckwork~~ framework 43. A plurality of piston/cylinder units 45 are also carried by the truck with their cylinders fixed to the truck and their pistons 46 extendable away from and retractable toward the truck 44. The distal ends of the pistons 46 of the piston/cylinder units 45 carry core assembly engagement means 47. The pistons 46 of the piston/cylinder units 45 are driven by a fourth means for extending and retracting the pistons 46 and the core assembly engagement means 47 away from and toward the truck 44. A fifth means is provided for operation of the core assembly engagement means.

[0034] Thus, the pistons 46 of the hydraulic cylinders ~~[[48]]~~ 45 are retracted after engagement of the core assembly engagement means 47, and a completed core assembly 19 is pulled from the core assembly fixture 21 in a direction substantially perpendicular to the core assembly fixture 21. The truck 44 then rolls horizontally away from the rotating table 20 on the framework 43, and the truck 44 is pivoted until the completed core assembly 19 is in the horizontal position within the pick-and-place assembly 40. Then the completed core assembly 19 is lowered to the horizontal conveyor 18 by a combination of the vertical movements of the frame 43 and the extension of the hydraulic pistons 46.